Amendments To The Claims:

The text of all pending claims, (including withdrawn claims) is set forth below. Canceled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (canceled), (withdrawn), (new), (previously presented), or (not entered).

Applicants reserve the right to pursue any canceled claims at a later date.

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1 – 12 (canceled)

13. (currently amended) A turbine shaft oriented in an axial direction, comprising:
a first flow region;

a second flow region that adjoins the first flow region in an axial direction;

a first material in the first flow region; and

a second material in the second flow region, the second material joined to the first material through at least one weld joint,

wherein the first material comprises a heat-resistant steel having undergone a tempering process and the second material comprises a steel which is tough at low temperatures and

wherein the first material is characterized by a low stability during the tempering process relative to 1 CrMoV steel,

wherein:

the first material includes 0.20 - 0.24% by weight of C, ≤ 0.20% by weight of Si, 0.60 - 0.80% by weight of Mn, ≤ 0.010% by weight of P, ≤ 0.007% by weight of S, 2.05 - 2.20% by weight of Cr, 0.80 - 0.90% by weight of Mo, 0.70 - 0.80% by weight of Ni, 0.25 - 0.35% by weight of V and 0.60 - 0.70% by weight of W, and the second material includes 0.22 - 0.32% by weight of C, ≤ 0.15% by weight of Si, 0.15 to 0.40% by weight of Mn, ≤ 0.010% by weight of P, ≤ 0.007% by weight

of S, 1.20 - 1.80% by weight of Cr, 0.25 - 0.45% by weight of Mo, 3.40 - 4.00% by weight of Ni, 0.05 - 0.15% by weight of V.

14. (previously presented) The turbine shaft as claimed in claim 13, wherein the first material comprises a 2 CrMoNiWV steel and the second material comprises a 3.5 NiCrMoV steel.

15. (canceled).

16. (previously presented) The turbine shaft as claimed in claim 13, wherein a single structural weld seam is arranged between the first material and the second material.

17. (previously presented) The turbine shaft as claimed in claim 13, wherein the tempering process is characterized by a temperature between 600 C and 640 C thereby allowing characteristic hardness in a heat-affected zone of the first material to be reduced.

18. (previously presented) The turbine shaft as claimed in claim 13, wherein the tempering process is characterized by a temperature between 600 C and 640 C thereby allowing internal stress in a heat-affected zone of the first material to be reduced.

19. (currently amended) A process for producing a turbine shaft, comprising:
orienting a first material and a second material in an axial direction; and
directly joining the first and second materials to one another by a single structural weld~~,~~;
tempering the welded first and second materials,
wherein the first material comprises a heat-resistant steel having undergone a tempering process and the first material is characterized by a low stability during the tempering process relative to 1 CrMoV steel.

20. (previously presented) The process as claimed in claim 19, wherein a 2 CrMoNiWV steel is used for the first material and a 3.5 NiCrMoV steel is used for the second material.

21. (previously presented) The process as claimed in claim 19, wherein 0.20 - 0.24% by weight of C, ≤ 0.20% by weight of Si, 0.60 - 0.80% by weight of Mn, ≤ 0.010% by weight of P, ≤ 0.007% by weight of S, 2.05 - 2.20% by weight of Cr, 0.80 - 0.90% by weight of Mo, 0.70 - 0.80% by weight of Ni, 0.25 - 0.35% by weight of V and 0.60 - 0.70% by weight of W is used for the first material, and 0.22 - 0.32% by weight of C, ≤ 0.15% by weight of Si, 0.15 - 0.40% by weight of Mn, ≤ 0.010% by weight of P, ≤ 0.007% by weight of S, 1.20 - 1.80% by weight of Cr, 0.25 - 0.45% by weight of Mo, 3.40 - 4.00% by weight of Ni, 0.05 - 0.15% by weight of V is used for the second material.

22. (canceled).

23. (previously presented) The process as claimed in claim 22, wherein the tempering process is performed at a temperature between 600 C and 640 C. thereby allowing characteristic hardness in a heat-affected zone of the first material to be reduced.

24. (previously presented) The process as claimed in claim 23, wherein the tempering process reduces characteristic hardness in a heat-affected zone of the first material to produce a rotor for use in a steam turbine.

25. (new) A turbine shaft oriented in an axial direction, comprising:
a first flow region;
a second flow region that adjoins the first flow region in an axial direction;
a first material in the first flow region; and
a second material in the second flow region,
wherein the first material comprises a heat-resistant steel having the composition:
0.20 - 0.24% by weight of C, ≤ 0.20% by weight of Si, 0.60 - 0.80% by weight of Mn, ≤ 0.010% by weight of P, ≤ 0.007% by weight of S, 2.05 - 2.20% by weight of Cr, 0.80 - 0.90% by weight of Mo, 0.70 - 0.80% by weight of Ni, 0.25 - 0.35% by weight of V and 0.60 - 0.70% by weight of W, and

wherein the second material comprises a steel which is tough at low temperatures having the composition:

0.22 - 0.32% by weight of C, ≤ 0.15% by weight of Si, 0.15 to 0.40% by weight of Mn, ≤ 0.010% by weight of P, ≤ 0.007% by weight of S, 1.20 - 1.80% by weight of Cr, 0.25 - 0.45% by weight of Mo, 3.40 - 4.00% by weight of Ni, 0.05 - 0.15% by weight of V

26. (new) A process for producing a turbine shaft, comprising:
orienting a first material and a second material in an axial direction; and
directly joining the first and second materials to one another by a structural weld,
wherein 0.20 - 0.24% by weight of C, ≤ 0.20% by weight of Si, 0.60 - 0.80% by weight of Mn, ≤ 0.010% by weight of P, ≤ 0.007% by weight of S, 2.05 - 2.20% by weight of Cr, 0.80 - 0.90% by weight of Mo, 0.70 - 0.80% by weight of Ni, 0.25 - 0.35% by weight of V and 0.60 - 0.70% by weight of W is used for the first material, and 0.22 - 0.32% by weight of C, ≤ 0.15% by weight of Si, 0.15 - 0.40% by weight of Mn, ≤ 0.010% by weight of P, ≤ 0.007% by weight of S, 1.20 - 1.80% by weight of Cr, 0.25 - 0.45% by weight of Mo, 3.40 - 4.00% by weight of Ni, 0.05 - 0.15% by weight of V is used for the second material.